a thermoclectric device having opposing surfaces that generate higher **[elevated]** temperatures on one surface and lower **[reduced]** temperatures on an opposite **[opposing]** surface depending on the direction of the electrical current passing through **[electrical potential applied to]** the thermoelectric device, one **[opposing]** surface being connected to and in thermal communication with the supply side heat exchanger and the opposite **[other opposing]** surface being connected to and in thermal communication with the waste side heat exchanger;

a motor drivingly connected to at least one of the heat exchangers or thermoelectric device to rotate the heat exchangers about the axis of rotation to cause air to enter at least one of the holes along the axis of rotation and pass outward through the heat exchanger;

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an enclosure **[a housing]** containing at least the supply heat exchanger and forming an outlet through which air exits after passing through the supply heat exchanger;

a seat **[of a motor vehicle]** having a surface against which a person rests, the surface having passages therethrough in at least a portion of the surface where the person rests, the surface being in fluid communication with the outlet of the supply heat exchanger, the heat exchanger and motor rotation cooperating so air from the heat exchanger is forced through the surface to provide conditioned air in the area where **[the passenger]** said person rests against the surface during use of the seat.

2. (Amended) A system as defined in Claim 1, wherein the enclosure contains **[housing encloses]** both heat exchangers and further comprising an insulating layer between the first and second heat exchangers that extends radially outward toward the enclosure **[housing]** to form a**[n insulated]** barrier against heat transfer between the supply and waste heat exchangers, and further comprising a non-contacting labyrinth seal formed by a periphery of the insulating layer and a portion of the enclosure enclosing a periphery of the heat exchangers to inhibit air flow between the heat exchangers.

Rule 1.126 OK

(New) A system as defined in Claim 1, additionally comprising a wicking material being connected to at least a portion of the enclosure and having a first portion in contact with air exiting the supply heat exchanger and having a second portion in contact with air

29

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exiting the waste heat exchanger so that if one of the heat exchangers generates moisture the wicking material conducts the moisture away from the heat exchanger producing the moisture.

(New) A system as defined in Claim 1, wherein the combined height of the heat exchangers and thermoelectric device is less than about 30 mm when measured along the rotational axis.

(New) A system as defined in Claim 1, wherein the enclosure contains both heat exchangers and further comprising an insulating layer between the first and second heat exchangers that extends radially outward toward the housing to form a barrier against heat transfer between the supply and waste heat exchangers.

(New) A system as defined in Claim 1, with the motor nesting into at least one of said holes in the heat exchangers.

(New) An apparatus for thermally conditioning a fluid, comprising:

a thermoelectric unit adapted to convert electrical energy into thermal energy producing a temperature change in response to an electrical current being applied thereto, the thermoelectric unit comprising a disk having first and second opposing surfaces and being mounted to rotate about a rotational axis through a center of the disk; and

an annular heat transfer device comprising:

a first series of heat transfer surfaces in conductive thermal communication with the first surface of the thermoelectric unit and aligned with a plurality of axes orthogonal to the rotational axis; and

a second series of heat transfer surfaces in conductive thermal communication with the second surface of the thermoelectric unit and aligned with a plurality of axes orthogonal to the rotational axis;

wherein at least a portion of the first and second series of heat transfer surfaces comprise folds of a thermally conductive material and are arranged to produce a fluid flow across the surfaces outward from the rotational axis when rotated about the axis.

(New) The apparatus of Claim 7, wherein the first series of heat transfer surfaces has a first length measured along an axis orthogonal to the rotational axis, the second series of

heat transfer surfaces has a second length measured along an axis orthogonal to the rotational axis, and the second length is different from the first length.

9. (New) The apparatus of Claim 7, wherein the heat transfer device has a height measured along the rotational axis, and an inner diameter and an outer diameter measured along an axis orthogonal to the rotational axis, the distance between the inner and outer diameters being greater than the height.

10. (New) The apparatus of Claim 7, wherein the first and second series of heat transfer surfaces have different heat transfer areas.

11. (New) The apparatus of Claim 7, wherein the heat transfer device is contained in an enclosure having at least one outlet in fluid communication with a seat and having an inlet configured to provide the fluid to the inner diameter of the heat transfer device along the rotational axis.

12. (New) The apparatus of Claim 7, wherein the heat transfer device is contained in an enclosure having at least one outlet in fluid communication with a seat and having an inlet configured to provide the fluid to the inner diameter of the heat transfer device along the rotational axis.

13. (New) The apparatus of Claim 7, wherein at least some of the heat transfer surfaces form substantially flat sheets extending outward from the rotational axis and define a series of spaces between the sheets.

14. (New) The apparatus of Claim 7, wherein the at least one of the first and second series of heat transfer surfaces are separated by a distance in the range of approximately 0.5-2 mm.

15. (New) A method for providing temperature controlled ventilation to a seat having a seat surface, comprising the steps of:

providing a supply side heat exchanger that rotates about an axis of rotation and permits fluid to pass therethrough, the supply side heat exchanger having a first series of heat transfer surfaces, at least a portion of which comprise folds of a thermally conductive material aligned with a plurality of axes orthogonal to the rotational axis;

providing a waste side heat exchanger that rotates about said axis of rotation and permits fluid to pass therethrough, the waste side heat exchanger having a first series of

heat transfer surfaces, at least a portion of which comprise folds of a thermally conductive material aligned with a plurality of axes orthogonal to the rotational axis; and

providing a thermoelectric unit having opposing surfaces that generate higher temperatures on one surface and lower temperatures on the opposite surface depending on the electrical current passing through to the thermoelectric device, and conductively connecting one surface of the thermoelectric device to the supply side heat exchanger and conductively connecting the opposite surface to the waste side heat exchanger;

rotating the heat exchangers and thermoelectric unit about the axis of rotation to cause fluid to pass through the heat exchanger;

enclosing the supply side heat exchanger and forming an outlet through which fluid exits after passing through the supply side heat exchanger; and

placing the seat surface in fluid communication with the outlet of the supply side heat exchanger.

16. (New) A method as defined in Claim 15, wherein the supply side heat exchanger has a first height along the rotational axis and a first diameter along an axis orthogonal to the rotational axis with the first height being less than the first diameter, and the waste side heat exchanger has a second height along the rotational axis and a second diameter along an axis orthogonal to the rotational axis with the second height being less than the second diameter and sized to fit within or under a seat.

17. (New) A method as defined in Claim 15, comprising the further step of enclosing both heat exchangers and insulating the supply side and waste side heat exchangers from each other and comprising the further step of forming a non-contacting labyrinth seal between a periphery of the insulating layer and a portion of the enclosure enclosing a periphery of the heat exchangers to inhibit fluid flow between the heat exchangers.

18. (New) A method for use with a seat having an exterior surface where a person rests, comprising the steps of:

providing a first annular heat exchanger having a fluid outlet in fluid communication with the exterior surface of the seat and mounting the heat exchanger to rotate about a rotational axis, the first annular heat exchanger having a first series of heat

transfer surfaces, at least a portion of which comprise folds of a thermally conductive material aligned with a plurality of axes orthogonal to the rotational axis;

placing the first annular heat exchanger in conductive thermal communication with a thermoelectric unit that is selected to generate a temperature change when an electrical current is applied to the thermoelectric unit; and

rotating the first heat exchanger about the axis to force fluid through the heat exchanger while conditioning the temperature of the fluid passing over the heat exchanger.

19. (New) The method of Claim 17, wherein the first heat exchanger has a height along the rotational axis which is smaller than a length of the first heat exchanger along an axis orthogonal to the rotational axis.

20. (New) The method of Claim 18, comprising the further steps of:

placing a second annular heat exchanger in conductive thermal communication with a second surface of the thermoelectric unit, the second heat exchanger having:

a second series of heat transfer surfaces, at least a portion of which comprise folds of a thermally conductive material aligned with a plurality of axes orthogonal to the rotational axis; and

a height along the rotational axis which is smaller than a length of the second heat exchanger along an axis orthogonal to the rotational axis;

selecting the lengths of the first and second annular heat exchangers to be different; and

rotating the second annular heat exchanger about the rotational axis with the first heat exchanger to force fluid through the second heat exchanger while conditioning the temperature of the fluid passing through the second heat exchanger.

21. (New) A method for thermally conditioning a fluid, comprising the steps of:

providing a supply side heat exchanger that rotates about an axis of rotation and allowing fluid to pass therethrough, the supply side heat exchanger having a first plurality of heat transfer surfaces, at least a portion of which comprise folds of a thermally conductive material aligned with a plurality of axes orthogonal to the rotational axis;

providing a waste side heat exchanger that rotates about said axis of rotation and allowing fluid to pass therethrough, the waste side heat exchanger having a second plurality of heat transfer surfaces, at least a portion of which comprise folds of a thermally conductive material aligned with a plurality of axes orthogonal to the rotational axis;

providing a thermoelectric device having opposing surfaces that generate elevated temperatures on one surface and reduced temperatures on the opposite surface depending on the direction of the electrical current passing through the thermoelectric device, and conductively connecting one surface of the thermoelectric device to the supply side heat exchanger and conductively connecting the opposite surface to the waste side heat exchanger;

rotating the heat exchangers and thermoelectric device about the axis of rotation to cause fluid to pass through the heat exchangers;

enclosing the supply side heat exchanger and forming an outlet through which fluid exits after passing through the supply side heat exchanger; and

placing the outlet from the supply side heat exchanger in fluid communication with the interior of an enclosed and insulated portable chamber, while exhausting the fluid from the waste side heat exchanger outside the chamber.

22. (New) A method as defined in Claim 21, wherein the supply side heat exchanger has a first height along the axis of rotation and a first diameter orthogonal to the axis of rotation with the first diameter being greater than the first height, and the waste side heat exchanger has a second height along the axis of rotation and a second diameter orthogonal to the axis of rotation with the second diameter being greater than the second height.

23. (New) A method as defined in Claim 21 wherein the step of providing the supply side heat exchanger comprises forming the heat exchanger with a hole therein about said axis of rotation and allowing fluid to pass outward from said axis of rotation;

and wherein said step of providing a waste side heat exchanger comprises the step of forming a hole therein about said axis of rotation and allowing fluid to pass outward from said axis of rotation; and

wherein said step of rotating the heat exchangers and thermoelectric device about the axis of rotation causes fluid to enter at least one of the holes and pass outward through the heat exchanger.

24 ~~25.~~ (New) A method as defined in Claim ~~21~~ 8 or 21, comprising the further steps of:

placing a seat in fluid communication with the outlet of the supply side heat exchanger.

25 ~~26.~~ (New) A method as defined in Claim ~~21~~ 8 or 21, comprising the further step of providing a closeable opening to allow access to the interior of the chamber.

26 ~~27.~~ (New) A method as defined in Claim ~~21~~ 8 or 21, comprising the further step of connecting a wicking material to at least a portion of a housing enclosing the heat exchangers, the housing having a first portion in contact with air exiting the supply side heat exchanger and having a second portion in contact with air exiting the waste heat exchanger so that if one of the heat exchangers generates moisture the wicking material conducts the moisture away from the heat exchanger producing the moisture.

93 ~~28.~~ (New) An apparatus for thermally conditioning a fluid, comprising:

a supply side, annular heat exchanger forming a hole therein about an axis of rotation and configured to allow air to pass outward from said axis of rotation, said supply side heat exchanger comprising a first series of heat transfer surfaces that are aligned with a plurality of axes orthogonal to the rotational axis;

a waste side, annular heat exchanger forming a hole therein about said axis of rotation and configured to allow air to pass outward from said axis of rotation, said waste side heat exchanger comprising a second series of heat transfer surfaces that are aligned with a plurality of axes orthogonal to the rotational axis;

a thermoelectric device having opposing surfaces that generate higher temperatures on one surface and lower temperatures on an opposite surface depending on the direction of the electrical current passing through the thermoelectric device, one surface being connected to and in thermal communication with the supply side heat exchanger and the opposite surface being connected to and in thermal communication with the waste side heat exchanger;

a motor drivingly connected to at least one of the heat exchangers or thermoelectric device to rotate the heat exchangers about the axis of rotation to cause air to enter at least one of the holes along the axis of rotation and pass outward through the heat exchanger, the motor nesting into at least one of the holes in the heat exchangers;

an enclosure containing at least the supply heat exchanger and forming an outlet through which air exits after passing through the supply heat exchanger;

wherein the heat exchanger and motor rotation cooperate to force air from the heat exchanger through the outlet to provide conditioned air in a desired area.

28. (New) A method for thermally conditioning a fluid, comprising the steps of:

providing a supply side, annular heat exchanger having a hole therein, the supply side heat exchanger being rotatable about an axis of rotation and having a first plurality of heat transfer surfaces aligned with a plurality of axes orthogonal to the rotational axis;

providing a waste side, annular heat exchanger having a hole therein, the waste side heat exchanger being rotatable about said axis of rotation and having a second plurality of heat transfer surfaces aligned with a plurality of axes orthogonal to the rotational axis;

providing a thermoelectric device having opposing surfaces that generate elevated temperatures on one surface and reduced temperatures on an opposite surface depending on the direction of the electrical current passing through the thermoelectric device, and conductively connecting one surface of the thermoelectric device to the supply side heat exchanger and conductively connecting an opposite surface to the waste side heat exchanger;

connecting a motor to at least one of the heat exchangers or thermoelectric device to rotate the heat exchangers about the axis of rotation to cause fluid to pass through the heat exchangers;

nesting the motor into at least one of the holes in the heat exchangers; and

enclosing at least the supply side heat exchanger and forming an outlet in the enclosure thus formed through which fluid exits after passing through the supply side heat exchanger.

29. (New) A method of thermally conditioning a fluid, comprising the steps of:

providing a thermoelectric unit that is adapted to convert electrical energy into thermal energy to produce a temperature change in response to an electrical current being applied thereto, the thermoelectric unit comprising a disk having first and second opposing surfaces;

mounting the thermoelectric unit to rotate about a rotational axis through a center of the disk;

providing an annular heat transfer device comprising:

a first series of heat transfer surfaces in conductive thermal communication with the first surface of the thermoelectric unit and aligned with a plurality of axes orthogonal to the rotational axis, the first series of heat transfer surfaces having a first length measured along an axis orthogonal to the rotational axis; and

a second series of heat transfer surfaces in conductive thermal communication with the second surface of the thermoelectric unit and aligned with a plurality of axes orthogonal to the rotational axis, the second series of heat transfer surfaces having a second length measured along an axis orthogonal to the rotational axis, the second length being different from the first length; and

rotating the thermoelectric unit and heat transfer device about the rotational axis so as to produce a fluid flow across each of the first and second series of heat transfer surfaces.

30. (New) An apparatus comprising a product of the method defined in Claim 29.

31. (New) A method of thermally conditioning a fluid, comprising the steps of:

providing a thermoelectric unit that is adapted to convert electrical energy into thermal energy to produce a temperature change in response to an electrical current being applied thereto, the thermoelectric unit comprising a disk having first and second opposing surfaces;

mounting the thermoelectric unit to rotate about a rotational axis through a center of the disk;

providing an annular heat transfer device that has a height measured along the rotational axis, and an inner diameter and an outer diameter measured along an axis